6199-4-1P AID:97222 | 09/02/2020

Given Data:

Lake area = 2000 ha = 2000 x 10,000 sq.meters (Note: 1 ha = 10,000 sq.meters)

Inflow for the month of August (Qin) = 0 m3/s

Outflow for the march of August (Qout) = 0 m3/s

Total precipitation during the month of August(P) = 0 m

Total evaporation during the month of August(E) = 6.8 mm/day

Total estimated seepage during the month of August (Iou t) = 0.01 mm/day

We are asked to find drop in water level of the lake due to both evaporation & seepage during two cases

1. When dam is vertical
2. When dam is with 5o inclination

Referring to the question (4-3) from chapter,

S = P + Qin + Iin - Qout - Iout - R - E - T

We know from the given data that

P = 0,

Qin = 0,

Iin = 0,

Qout = 0,

Iout = 0.01 mm/day,

R = 0

E = 6.8 mm/day

T = 0

**Case - I:**

S = 0 + 0 + 0 + 0 - 0.01 - 0 - 6.8 - 0

S = -6.8 mm/day

Here the symbol - (minus) indicates that there is a drop in the water body.

∴ Drop = 6.81 mm/day

**Note:** There are 31 days in August

∴ Total drop during August = 6.81 mm x 31 days

= 211.11 mm

= 21.11 cm

= 0.21 meters

**Case II:**

What would be the drop if the dam has 5o angle.

85O

5O

211.11 mm

= ?

∴Vertical drop is 0.21 meters & Inclined drop at 5o is 2.4 meters during August